LAKE COUNTY
FLORIDA

Department of Growth Management
Building Division

Minimum Commercial Electrical Plan Review Requirements

1. **Signed and Sealed Plans, By an Engineer: Florida Statues, 471.003**
   Any system with a value less than listed below would not require Engineering.
   A. Electrical with a value of $50,000.00 or less.
   B. An aggregate service capacity of 600 amperes (240 volts) or less on a residential electric system or 800 amperes (240 volts) or less on commercial or industrial electrical system.

2. **Max available fault current @ service disconnect: NEC 110-9**
   This is for new services and service upgrades. Contact your power company for this information. *Example: 22,000 SCA*

3. **AIC rating of breakers/fuses, and panel board bracing: NEC 110-10**
   1. For a new service: The AIC rating of the breaker or fuse must match or exceed the Max available Fault current above. *Example: 22,000 AIC*
   2. For an existing service: what is the AIC value of the breakers or fuses in the existing service disconnect? *Example: 22,000 A/C*

4. **Metering Equipment**
   1. Is the metering equipment provided by the utility company?
   2. If contractor provided, need voltage, ampacity, and withstand (AIC) ratings.

5. **Main overcurrent protection: NEC 230-G**
   What is the value of the main overcurrent device for the service disconnect and any other sub panels connected to the system?
   Example: Service disconnect = 800 amps, Panels "A", "B", and "C" = 200 amps each.

6. **Number of service disconnects: NEC 230 -7**
   The NEC allows six operations of the hand for service disconnects. How many do you have? *Example: One*

7. **Voltage of the electrical system: NEC 110-4 and 220-2**
   What is the voltage of electrical system? *Example: 277/480 volts.*

8. **Phase of the system: NEC 110-3**
   What is the Phase of the system? *Example: Three (3) Phase*

9. **Separately Derived Systems: NEC 250, 445, 450, 455, 690, 700-705**
   Example: 45 kva kick down transformer, generators, converter windings, solar photovoltaic systems, power production systems, and associated equipment, that are part of the premises wiring system.

10. **Load descriptions: NEC 220**
    1. For new construction: Need the total load on the service and sub panels on the system. *Example: This is accomplished by following the rules in article 220 of the NEC.*
    2. For existing buildings or build-outs: Need the existing load and the new load that is being added to the service and sub panels. *Example: for existing services a 12 month print out of kW's used plus the new load. Or old load used at new construction plus.*

11. **Branch circuit & equipment requirements:**
    Example: service panel, sub-panel, & equipment disconnect locations. GFCI protected receptacle locations, sign circuits, show window lighting or receptacles, outside lighting, etc.

12. **Conductor size: NEC 310-15(2)(B), and Table 310-16**
    Example: Service disconnect = 4 sets of 3/0 = 800 amps

13. **Conductor type: NEC 310-2(b), and 310-8**
    Example: copper conductors with thwn insulation

14. **Conduit size and type: NEC Chapter 9, Tables, and Appendix C**
    Example: 4 sets of 2" pvc sch 40

15. **Conduit fill: NEC Chapter 9, Table 1 and Notes to tables**
    Example: Must comply with 40% fill for Conduit and 60% fill for a nipple.

16. **Grounding methods and conductor sizes: NEC 250-C**
    Example: 2/0 copper to foundation steel, metallic water pipe and 10'x 5/8" ground rod.